

## **RADIO FREQUENCY MODULATOR**

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### **ABSTRACT OF THE DISCLOSURE**

A transmitter architecture (200) provides for a stable and low noise modulator where the modulation bandwidth is uncorrelated to the TX loop bandwidth. The output signal (228) of the TX loop is demodulated by a demodulator (208) and the demodulated signal is compared by a comparator (206) with the modulating input signal (202). The output of the comparator is then used to adjust a digital pre-emphasis filter (204) which preconditions the modulating input signal (202) in the digital domain. The preconditioning approach of the present invention provides for low noise because the transmitter designer can chose a narrow band for the TX loop which will also filter out the noise coming from the additional synthesizer (226) used to down convert the input signal.

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